BRIEF NOTE

The Status of Some Tiger Beetles (Coleoptera: Cicindelidae: *Cicindela* spp.) in Southern Ohio[1]

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ABSTRACT. A tiger beetle survey of the Ohio counties that border the Ohio, Great Miami, and Little Miami rivers located eleven new county records. *Cicindela sexguttata* is reported in Brown, Gallia, and Lawrence counties; *C. repanda* from Brown, Clermont and Warren counties, *C. duodecimguttata* from Brown County, *C. unipunctata* from Gallia County, and *C. cuprascens* from Brown, Clermont, and Scioto counties. A search for C *splendida* in Adams County and *C. hirticollis* in Hamilton County failed to locate specimens in their previous localities, suggesting they may be extirpated from those areas.

OHIO J. SCI. 96 (1): 29-30, 1996

INTRODUCTION

Tiger beetles have been recognized as indicators of biodiversity with their species diversity proportional to the number of bird and butterfly species in a region (Pearson and Cassola 1992). With the publication of the *Tiger Beetles of Ohio* by R. C. Graves and D. W. Brzoska (1991), Ohio has a reference with which to monitor possible changes in its tiger beetle diversity. However, some of the records in Graves and Brzoska (1991) are based on museum voucher specimens collected decades ago, therefore modern records are needed to obtain an accurate picture of tiger beetle diversity. To determine if there has been any significant changes in tiger beetle diversity in southern Ohio, we made a concerted effort to survey the rarer tiger beetle species of the region.

MATERIALS AND METHODS

A survey for tiger beetles was conducted along the Ohio, Great Miami, and Little Miami rivers which included parts of Hamilton, Clermont, Brown, Adams, Scioto, Lawrence, Gallia, and Warren counties. The collecting started on 15 May 1995 and continued until 9 August 1995. Inland locations were reached by van while river sites were scouted by boat. Many sites were sampled more than once. All of the specimens collected are deposited in the Cincinnati Museum of Natural History.

RESULTS AND DISCUSSION

Eleven new county records involving five species were found. Detailed locality information is provided in the appendix. *C. sexguttata* is known throughout Ohio (Graves and Brzoska 1991) with a few county gaps in the Ohio distribution. New county records include Brown, Lawrence, and Gallia, which extends *sexguttata* in every southern county of Ohio. *C. repanda* is also widely distributed in Ohio and added to its distribution are new records from Warren, Clermont, and Brown counties. *C. duodecimguttata* prefers streams in farmland areas, and a new record was found for Brown County. None of these records are surprising since all three species have been collected in surrounding counties.

C. unipunctata was collected in the southern portion of Gallia County in a wooded area. This species is rarely collected due to its crepuscular behavior and Ohio is its most northern limit.

C. cuprascens, one of the rarer species in the state, was collected in Brown, Clermont, and Scioto counties. This extends the species much farther along the Ohio River and suggests that it is not as rare as previously considered.

C. splendida was known from Cave Hollow in Adams County. We made a careful survey of the area and found that the location is now a dumping ground for automobile parts and construction materials. We were unable to locate this species, which is only found in small numbers (Graves and Brzoska 1991). Given the tiger beetles' sensitivity to habitat destruction and the condition of Cave Hollow, *C. splendida* is likely extirpated in Adams County leaving it only in Hocking and Vinton counties.

Another rare tiger beetle in southwestern Ohio, *C. marginipennis*, was found in small isolated populations along the Great Miami River in northern Hamilton County. This species prefers cobblestone beaches which, along the Great Miami River, are subject to local flooding and are also littered by trash and abandoned automobiles. Given the precarious conditions along the Great Miami River where we found the populations of *C. marginipennis*, this beetle should be considered threatened in southern Ohio as was suggested by Graves and Brzoska (1991).

Finally, we made a considerable effort to locate populations of *C. hirticollis* in Hamilton County. Like *C. cuprascens*, *C. hirticollis* is considered rare and in need of protection (Graves and Brzoska 1991). We checked localities where it had been previously collected several times as well as likely areas found during the boat survey and failed to find any specimens. Collection data

[1]Manuscript received 28 September 1995 and in revised form 2 February 1996 (#BN95-18).

from the Cincinnati Museum of Natural History show that it was last collected in 1911. Moreover, we found considerable destruction to the shorelines of Hamilton County which would likely affect this sensitive beetle. It seems probable that *C. hirticollis* is now extirpated from Hamilton County.

ACKNOWLEDGEMENTS. We thank the Ohio Department of Natural Resources for a Biodiversity Grant to conduct this study. We also thank Dr. Brian Armitage of the Ohio Biological Survey, Dr. Charles Triplehorn at the Ohio Biodiversity Museum at The Ohio State University, and the College of Mount St. Joseph for their support of the Mount St. Joseph Insect Survey.

LITERATURE CITED

Graves, R. C. and D. W. Brzoska 1991 The tiger beetles of Ohio (Coleoptera: Cicindelidae). Ohio Biol. Surv. Bull. New Series Vol. 8 No 4., Columbus, OH.

Pearson, D. L. and F. Cassola 1992 World-wide species richness patterns of tiger beetles (Coleoptera: Cicindelidae): Indicator taxon for biodiversity and conservation studies. Conservation Biology 6: 376-391.

APPENDIX

New county records for Ohio's tiger beetles.

C. sexguttata: Brown Co., Ohio 221 3.0 miles north of Higginsport along west side of White Oak Creek, 22 May 1995; Gallia Co., woods along Montgomery Road 2.0 miles west of Ohio 218, 4 June 1995; Lawrence Co., Ohio 105 in a pasture 2.5 miles north of Kitts Hill, 4 June 1995; ***C. repanda***: Brown Co., Ohio 221 3.0 miles north of Higginsport along east side of the White Oak Creek, 24 May 1995; Clermont Co., Stonelick Creek at U.S. 50 and Ohio 222, 23 May 1995; Warren Co., Chautauqua 0.25 mile south of county line along the Great Miami River, 31 May 1995; ***C. duodecimguttata***: Brown Co., U.S. 68 at East Fork Bridge north of Fayetteville, 24 May 1995; ***C. unipunctata***: Gallia Co., woods along Montgomery Road 2.0 miles west of Ohio 218, 4 June 1995; ***C. cuprascens***: Brown Co., on a beach on the Ohio River 1.0 mile east of Aberdeen, 13 July 1995; Clermont Co., along Ohio River 0.25 mile west of the Meldahl Lock and Dam along the beach, 25 July 1995; Scioto Co., on a beach on the Ohio River 1.25 miles east of Buena Vista, 14 July 1995.